

Work Order ID 51068

July 30, 2009 10:18:24 AM



Page 1

Item ID: D212-664-107

Accept

Setup Start

Revision ID: A

Stop

Item Name: Crosstube Low Standard Fwd

Start Date: 08/05/2009 Start Qty: 1.00

Cust Item ID:

Required Date: 08/05/2009 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: WVF Date: 09-07-30 Tooling: _____ Date: _____

Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D212-664-147	Rev A

100 0.00



DOCUMENT CONTROL

DC

Memo

Document Control

Photocopy bluefile and create labels as per PPP D212-664-107 CHG001

8 07/06/30

110 0.00



Packaging

Packaging

Memo

Packaging

9/10/30 SP

120 0.00



BENDING MACHINE - CROSSTUBES

CNC Bend 2

Memo

CNC Alpha 160 Bender

Bend tube as per Dwg D412-664-243 using CNC bender program 412-af and

Photo P1010

212-107

AA

DP 9-10-26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 51068

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Item ID: D212-664-107

Revision ID: A

Item Name: Crosstube Low Standard Fwd






Start Date: 08/05/2009 Start Qty: 1.00

Required Date: 08/05/2009 Req'd Qty: 1.00

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start _____ Stop _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130  QC Quality Control	QC15- Crosstube Dimensional Check Memo	0.00 0.00							
140  Crosstubes Crosstubes	Crosstubes Memo <i>Cut per dwg</i>	0.00 0.00							
	1-Drill Rivet holes as per Dwg D212-664-147 using DT8972. □2-Drill pilot holes in tube as per Dwg D212-664-147 □3-Ream hole to finish size in tube as per Dwg D212-664-147 □4-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-6								
150  HandFXtube Hand Finishing Crosstubes	Crosstubes Chemical Conversion Memo	0.00 0.00							

DP 9-10-26
AWM 9-10-26

1 - A AWM 7-10-27

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____



Setup Start



Stop



Cust Item ID:

Customer:

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 QC Quality Control	QC3- Inspect Part Finish Memo	0.00 27 8 02/10/28 0.00				(40)	f		
170 QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 2) 8 09/10/28 0.00				(10)	f		
180 Outsource2 Outsource process - NDT	Outsource process - NDT per QSI038 4.1 Memo Liquid Penetrant Inspection as per QSI 038 Or <input type="checkbox"/> Issue P/O: 10255 LPI as per ASTM 1417 <input type="checkbox"/> Level 2 Attach copy of NDT results to work order	0.00 0.00							CL 09-10-28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Setup Start



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Cust Item ID:

Required Date: 08/05/2009 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190 	Packaging	0.00							
Packaging	Memo	0.00							
Packaging	Ensure copy of NDT results attached to work order.								
200 	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control	Inspect for damage & ensure results are as per Dwg D412-664-203								
210 	Crosstubes	0.00							
Crosstubes	Memo	0.00							
Crosstubes	1-Rivet Cuffs as per Dwg D212-664-147. with Sika flex in Between tube & Cuff A/R SIKAFLEX -241/-291 BATCH: 112391								

Signature 09/10/29

Signature 09 10 29

Signature 09 10 28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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[illegible]

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Accept

Setup Start

Stop

Cust Item ID:

Customer:

Reference:

Run Start

Stop

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

ml 09 10 28 7

0.00

SprayPaint

0.00

Memo

1-Prime inside and outside crosstube as per QSI 005 4.2 ☐ 2-Paint outside
crosstube with White Imron as per QSI 005 4.2 ☐ PRIME: ☐ Start
Time: 10:30 ☐ Finish Time: 11:00 ☐ PAINT: ☐ Start
Time: 2:30 ☐ Finish Time: 3:30

0.00

QC14- Inspect Spray Paint

0.00

Memo

Wrap in plastic bag to protect from scratches

0.00

Crosstubes

0.00

Memo

1- Assemble as per Dwg D212-664-147, 2- Lightly scuff the bonded area using a 320 grit sand paper and clean the area with 41058 wash 'n' wipe, 3- Install support with magnobond 6398 per dwg D212-664-147, 4- cure for 12hrs before packaging, 5- Time & date of applic

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Work Order ID 51068

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Start Date: 08/05/2009 Start Qty: 1.00

Required Date: 08/05/2009 Req'd Qty: 1.00

Reference:

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

250

QC5- Inspect part completeness to step on W/O

0.00

2) 8/10/30



QC

Memo

0.00

Quality Control

②

/

260

QC4- 100% Inspect kits for completeness

0.00

2) 8/10/30



QC

Memo

0.00

Quality Control

②

/

270

Packaging

0.00



Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D212.664-107

A

1/19/10/20 ②

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Cust Item ID:

Required Date: 08/05/2009 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

280

QC4- 100% Inspect kits for completeness

0.00



QC

Memo

0.00

Quality Control

290

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

MF 09-10-30 already done

09/10/30

MF 09-10-30

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

Picklist Print

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Page 1

Work Order ID: 51068

Parent Item: D212-664-107RevA

Parent Item Name: Crosstube Low Standard Fwd


Comments:

Start Date: 08/05/2009

Required Date: 08/05/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3428-1RevA		Manufactured	No			100	Each	56.0000	1.0000			
												
Placard												

9/10/30 SP

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST

16

47310

6

48359

10

Main Warehouse

ST096

40

50790

40

1X SP

D212-664-
107TRNRevA

Manufactured No

140

Each

0.0000

1.0000



Crosstube Turning Detail

D3659-1RevB

Manufactured No

220

Each

8.0000

2.0000



CUFF

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

8

37426

8

2

B51163
9-10-26

9-10-26
B50979

1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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July 30, 2009 10:18:24 AM

Work Order ID: 51068



Parent Item: D212-664-107RevA



Parent Item Name: Crosstube Low Standard Fwd

Start Date: 08/05/2009

Required Date: 08/05/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
CR3212-4-06 CHERRY RIVET		Purchased	No			240	Each	346.0000	44.0000			

Warehouse
Location

Loc Qty

Loc Code

Main Warehouse

ST

346

346

MA 08 10 28

D2893-1RevB



Manufactured

No

240

Each

72.0000

2.0000

2.75 Support

Warehouse
Location

Loc Qty

Loc Code

Main Warehouse

ST

72

25657

6

43479

10

46488

18

47109

18

47637

20

MA 08 10 29

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Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Picklist Print

July 30, 2009 10:18:24 AM

Work Order ID: 51068

Parent Item: D212-664-107RevA

Parent Item Name: Crosstube Low Standard Fwd


Start Date: 08/05/2009

Required Date: 08/05/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3595-063-450RevA  RUBBER CUSHION		Manufactured	No			240	Each	47.8000	4.0000			

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST 47.8

38959 2

43210 4.8

40465 41

260

Each

134.0000

4.0000

mm 09 10 29

9/1/030 sp

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST 134

111605 34

112314 100

4x 54

AN6-35A



BOLT

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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July 30, 2009 10:18:24 AM

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Parent Item Name: Crosstube Low Standard Fwd


Comments:

Start Date: 08/05/2009

Required Date: 08/05/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN6-36A  Bolt		Purchased	No			260	Each	169.0000	4.0000		9/1/030	SP

Warehouse
Location

Loc Qty

Loc Code

Main Warehouse

ST

169

109632

1

110382

18

111650

50

112314

100

2 SP

AN960JD616



Washer

Purchased

No

260

Each

1,326.000

18.0000

9/1/030

SP

Warehouse

Location

Loc Qty

Loc Code

Main Warehouse

ST

1326

107242

3

107959

6

109371

8

110704

23

111193

18

111607

268

112314

1000

18x50

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Required Date: 08/05/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
MS21042L6 Nut		Purchased	No			260	Each	755.0000	6.0000			



112492 9/10/30 SD

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	755	
105077	22	
110002	233	
111548	100	
111578	400	

MS21920-25



Purchased

No

260

Each

156.0000

4.0000



Clamp(per MIL-DTL-8783C)

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	156	
107456	2	
108111	3	
108975	17	
109181	48	
109644	10	
111282	50	
111429	25	
111883	1	

MA 08 10 29

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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

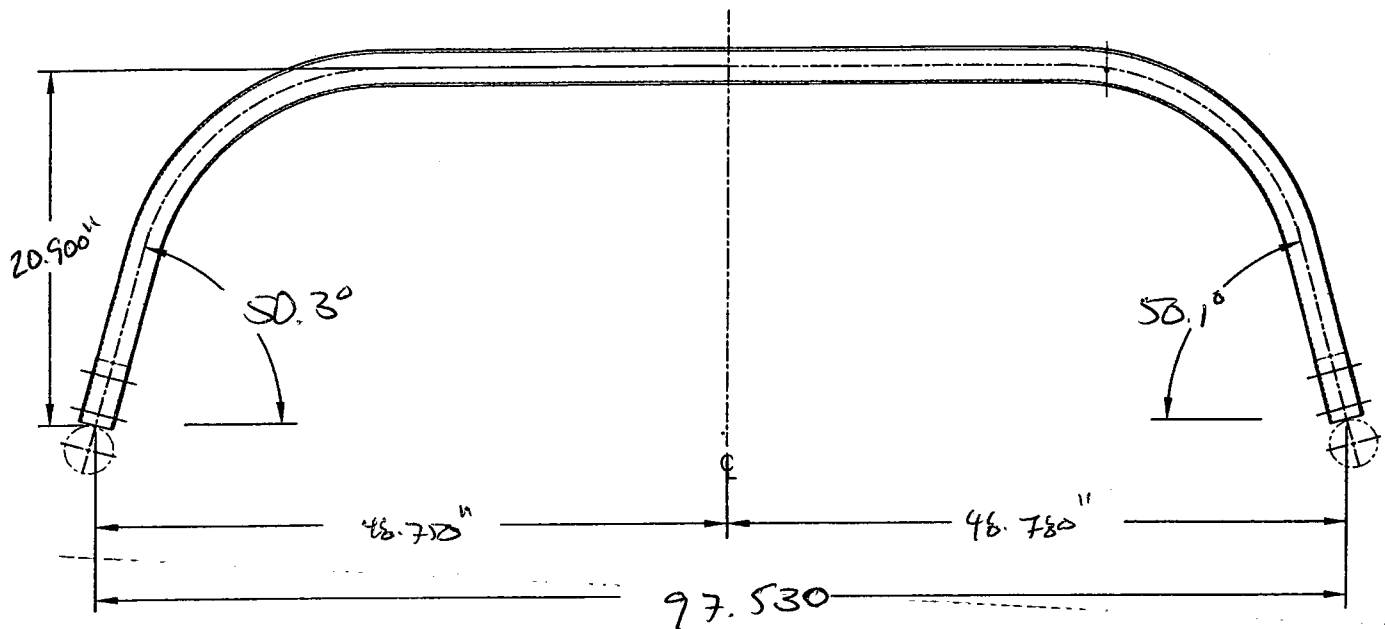
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DART AEROSPACE LTD		Work Order:	51068
Description: Crosstube Low Fwd (205/212/412)		Part Number:	D212-664-107
Inspection Dwg: D212-664-147 Rev: A		Page 1 of 1	

Required Dimension	Min	Max
Height	20.79	21.05
1/2 Span	48.55	48.81
Angle	49	52
Total Span	97.1	97.62



Comments

QC15 Inspection	S
Date	09/10/26

Rev	Date	Change	Revised by	Approved
A	08.02.29	New Issue	KJ/JM	

51068-
D212-664-107
09/10/26
S

PARTS LIST:

Qty	Part Number	Description
X	D212-664-147	CROSSTUBE ASSEMBLY (205/212/412 LOW FWD)
1	D6019-128	CROSSTUBE
2	D2893-1	SUPPORT
4	D3595-063-450	RUBBER CUSHION
2	D3659-1	CUFF
4	MS21920-25	CLAMP (OR MS21920-26)
44	CR3212-4-06	RIVET (OR M7885/3-4-06)
A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)
A/R	SIKAFLEX-241/-291	SEALANT (OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT)


GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6019-128
FINISHED LENGTH = 126.53±0.020 (BEFORE BENDING/TRIMMING)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) PART IS SYMMETRIC ABOUT CENTERLINE.
- 6) WHEN MACHINING TAPER, RUN-OFF PART AT STOCK. BLEND OUT EDGE LONGITUDINALLY,
TRANSITION SHOULD BE SMOOTH.
- 7) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE
TO BENDING IS 6% BASED ON O.D., EXCEPT UP TO 10% IS ALLOWED IN AREA NOTED.
- 8) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 9) SCRIBE DART PART NUMBER AND BATCH NUMBER ON INNER SURFACE OF TUBE WITH A
VIBRATING STYLUS.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS
SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT
LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) APPLY A 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1
THAT WILL BE IN CONTACT WITH THE CROSSTUBE. LET CURE FOR 12 HOURS AFTER
INSTALLATION AND PRIOR TO PACKAGING.
- 12) INSTALL MS21920-25 CLAMPS (OR -26) WITH D3595-063-450 RUBBER CUSHIONS TO SECURE
D2893-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE
CROSSTUBE SUPPORT.
- 13) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY
AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.
- 14) INSTALL D3659-1 CUFF AFTER CHEMICAL CONVERSION COAT BUT BEFORE PAINT, WITH A
LAYER OF SIKAFLEX-241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT BETWEEN
CUFF AND CROSSTUBE. SEAL EDGE OF CUFF TO ENSURE NO GAPS.
- 15) TOUCH-UP HOLES WITH CHEMICAL CONVERSION COAT.

51068

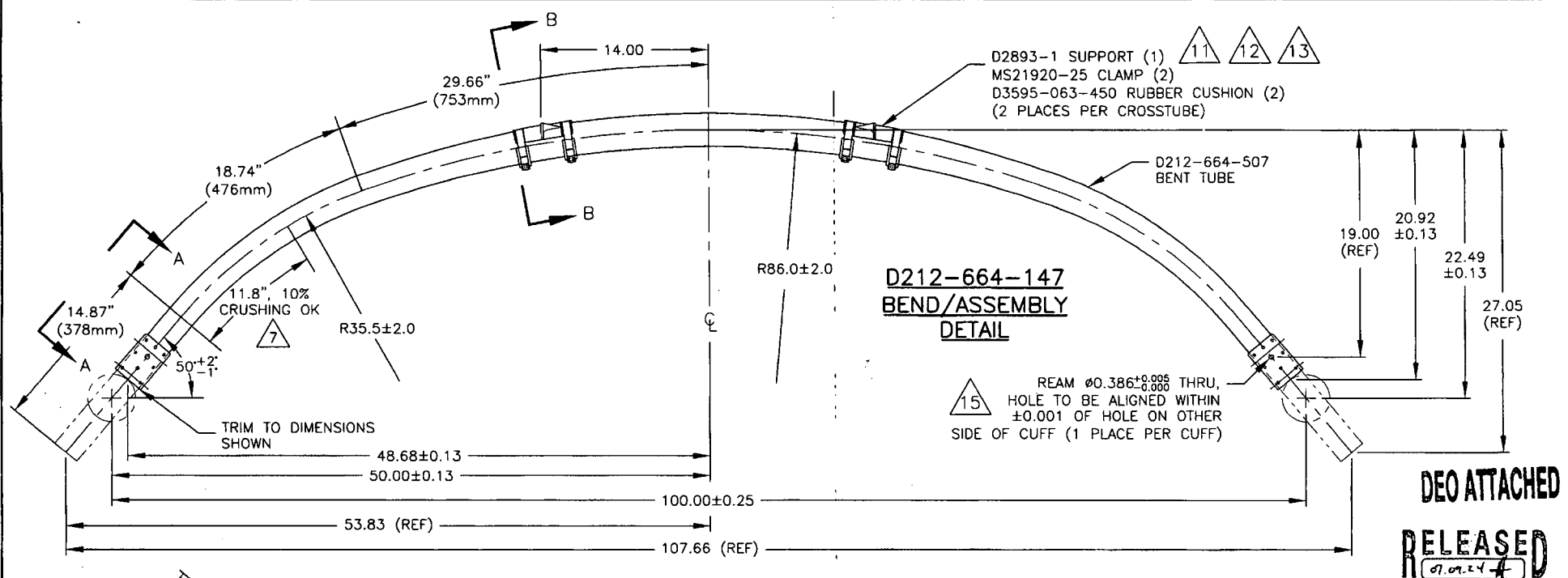
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07.09.24

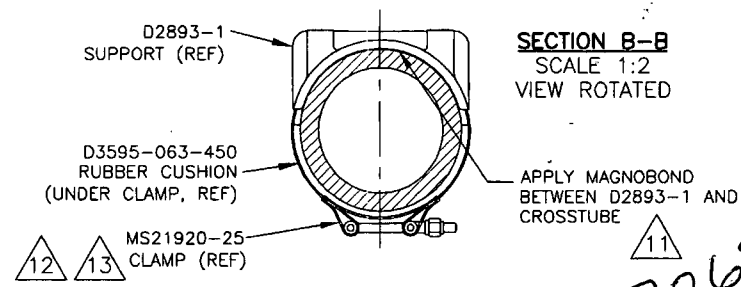
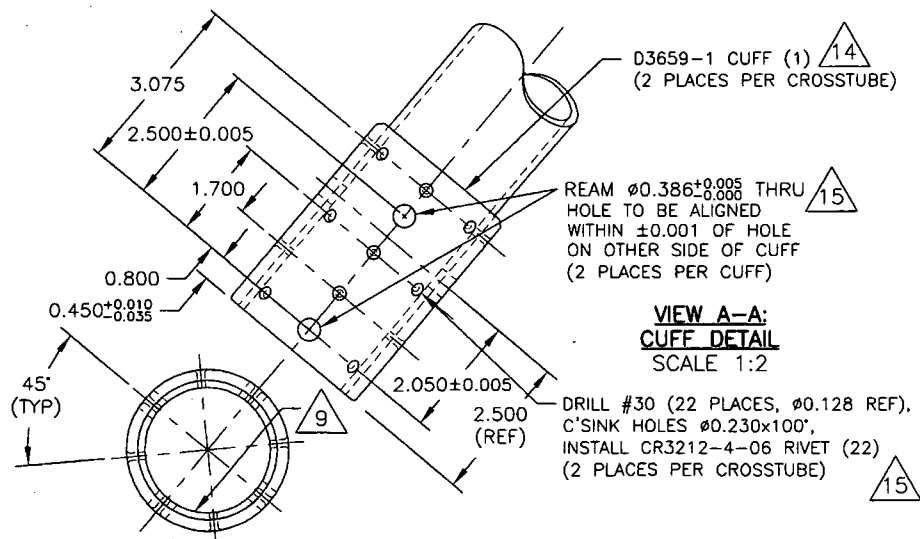
A		07.07.07	NEW ISSUE	
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DATE		TITLE		REV. A
07.07.07		CROSSTUBE (205/212/412 LOW FWD) NTS		SHEET 1 OF 3

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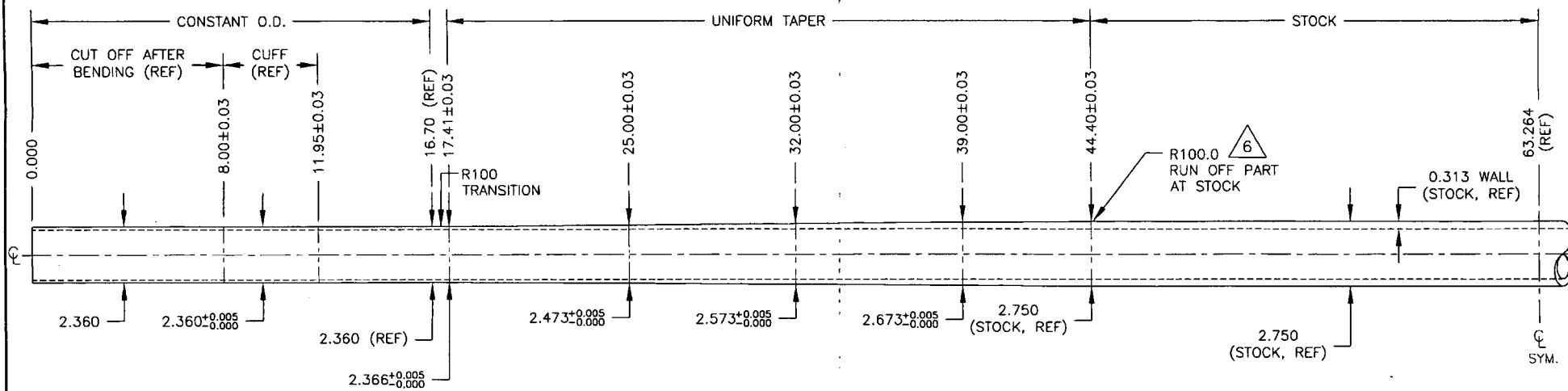
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DATE 07.07.07		TITLE CROSSTUBE (205/212/412 LOW FWD)		SCALE 1:8	



D212-664-147 MACHINING DETAIL

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DATE 07.07.07		TITLE CROSSTUBE (205/212/412 LOW FWD)		SCALE 1:4	

DRAWING NO. D212-664-147	TITLE CROSSTUBE	REV. A	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D212-664-147-A-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>CD</i>	CHECKED <i>pt</i>	MFG. APPR. <i>E</i>	APPROVED <i>MD</i>		DE APPR. <i>HH</i>		
DATE 09.05.01	DATE 09.06.15	DATE 09.06.15	DATE 09/06/16		DATE 09/06/16		

CHANGE:

ADD THE FOLLOWING CROSSTUBE ASSEMBLY:

Part Number	Description
D212-664-147B	CROSSTUBE ASSEMBLY (214 LOW FWD)

THE D212-664-147B CROSSTUBE HAS THE SAME PARTS LIST AS THE D212-664-147 CROSSTUBE. HOWEVER, INSTALL THE SUPPORTS AS SHOWN IN FIGURE 1 OF THIS ENGINEERING ORDER. THE NEW KIT IS OTHERWISE ASSEMBLED PER THE D212-664-147 CROSSTUBE.

RELEASED
09/06/22 *MD*

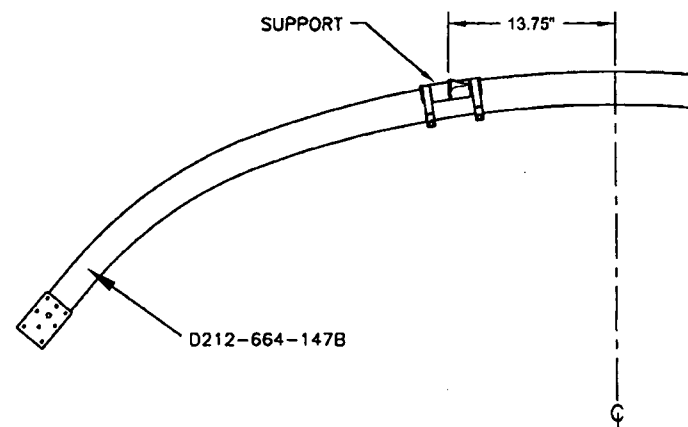


FIGURE 1 - SUPPORT INSTALLATION

51068

5.2 STANDARD GEAR CROSSTUBES

Item	-107	-207	-209	Part Number	Description
	X			D212-664-107	CROSSTUBE INSTALLATION, 204/205/210/212/214/412, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K STANDARD FWD
		X		D212-664-207	CROSSTUBE INSTALLATION, 204/205/210/212/214, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K STANDARD AFT
			X	D412-664-209	CROSSTUBE INSTALLATION, 412 STANDARD AFT
6	1			D212-664-147	CROSSTUBE ASSEMBLY, 204/205/210/212/214/412, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K STANDARD FWD
7		1		D212-664-247	CROSSTUBE ASSEMBLY, 204/205/210/212/214, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K STANDARD AFT
8			1	D412-664-249	CROSSTUBE ASSEMBLY, 412 STANDARD AFT
10	2			* D2893-1	SUPPORT
11	4			* D3595-063-450	RUBBER CUSHION
12	4			* MS21920-25	CLAMP (OR MS21042-26)
13	4			AN6-35A	BOLT
14	4			AN6-36A	BOLT
15	6			MS21042L6	NUT (OR MS21042-6)
16	18			AN960JD616	WASHER
20		2		* D2940-1	SUPPORT
21		4		* D3595-063-530	RUBBER CUSHION
22		4		* MS21920-28	CLAMP (OR MS21042-30)
23		4		AN6-40A	BOLT
24		2		AN6-41A	BOLT
25		6		MS21042L6	NUT (OR MS21042-6)
26		18		AN960JD616	WASHER
30			1	* D2896-1	SUPPORT
31			2	* D2856-600-1009	ABRASION STRIP
32			2	* D3595-063-570	RUBBER CUSHION
33			4	* MS21920-28	CLAMP
34			2	* MS21920-30	CLAMP (OR MS21042-32)
35			4	AN6-40A	BOLT
36			2	AN6-41A	BOLT
37			6	MS21042L6	NUT (OR MS21042-6)
38			18	AN960JD616	WASHER
39			2	* D3189-1	CHAFING SHIELD
45	2			* D3659-1	CUFF
46		2	2	* D3660-1	CUFF
47	44	44		* CR3212-4-06	RIVET (M7885/3-4-06)
48			44	* CR3212-4-07	RIVET (M7885/3-4-07)
50	1	1		D3428-1	PLACARD

*REFERENCE ONLY. PARTS ARE INCLUDED IN D212-664-147/-247 OR D412-664-249 ASSEMBLIES ABOVE
 NOTE: KITS INCLUDE EXTRA HARDWARE FOR COMPATIBILITY WITH BOTH DART AND BELL/AA SKIDTUBES.

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Revision: F
 Date: 08.09.05

57068



LIQUID PENETRANT TEST REPORT

P- 15030

PAGE 1 OF 1

ION Dart Aerospace DATE Oct 28th 09 TIME AM ☐ PM ☐
Linda Lacelle ACUREN JOB NO. 188-09-1626
1270 Aberdeen St. PO/VO No. 10655
Hawkesbury WORK LOCATION Hawkesbury
ACCEPTANCE STD. ASTM 1417/031-038 REV./DATE 2005
X-Tubes D212-664-201, D212-664-107, D212-664-101 - D206-667-103
EXAMINED Sub #'s 51068, 51069, 52218, 52454, 52455, 52456, 52539, 52540

DESCRIPTION PROCEDURE NO. LT-000 REV./DATE LT-000 TECHNIQUE No. LT-000 REV./DATE LT-000
o. D212-664-201 D212-664-107, D212-664-101 MATERIAL ALODINED ALUM. THICKNESS WET FLOUORESCENT LIQUID PENETRANT INSPECTION CARRIED OUT ON 100% EXTERNAL SURFACE

DETAILS
☒ FLUORESCENT ☐ VISIBLE ☒ WATER WASH ☐ SOLVENT REMOVABLE ☐ POST EMULSIFIED
BRAND MAGNAFLUX BLACK LIGHT S/N 8178 ☒ OUTPUT > 1000 μ W/cm² ☐ AMBIENT < 2 fc
ANT ZL67 MINIMUM DWELL TIME 45 MIN. LIGHTING EQUIP. ☒ FLASHLIGHT ☐ TROUBLELIGHT ☐ OUTPUT > 100 fc @ SURFACE
ANT REMOVER #20 MINIMUM DRY TIME >10 MIN. OTHER CAL JUNE 09
PER SKDS2 MINIMUM DWELL TIME 10 MIN. LIGHT METER S/N _____ CAL DUE DATE DEC 09
PER TYPE ☒ NON AQUEOUS ☐ AQUEOUS ☐ DRY

SURFACE
PRE CONDITION ☐ AS GROUND ☐ AS WELDED ☒ MACHINED ☐ SHOT BLASTED ☒ CLEAN BARE METAL
PRE TEMPERATURE ☐ < -4°C/ 20°F ☐ -4°C/ 20°F TO 10°C/50°F ☒ 10°C/50°F TO 52°C/125°F ☐ > 52°C/125°F
TS- ☐ METRIC ☐ IMPERIAL

WET FLOUORESCENT LIQUID
PENETRANT INSPECTION
CARRIED OUT ON 100%
EXTERNAL SURFACE ON X-TUBES
52540: ACCEPTABLE
Sub #'s 51068: ACCEPTABLE
51069: ACCEPTABLE
52218: ACCEPTABLE
52454: ACCEPTABLE
52455: ACCEPTABLE
52456: ACCEPTABLE
52539: ACCEPTABLE

mt 09 10 29

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of Care
In the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

TURES
REPRESENTATIVE Chantal Lavoie Chantal Lavoie DTR # E-27155
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(PRINT): FREDERICK CHAGNON NAME INITIALS
1st TECHNICIAN 2nd TECHNICIAN
CGSB LEVEL II SNT LEVEL II CGSB LEVEL _____ SNT LEVEL _____
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